

ABSTRACT OF THE DISCLOSURE

A vehicle framing system for framing an automotive vehicle body from a plurality of separate body components wherein the body components each include a reference surface. The system includes an assembly station having spaced-apart frame members positioned so that, when a vehicle carrier supporting the vehicle body components is positioned at the assembly station, the frame members extend along opposite sides of the vehicle carrier. At least two docking stations are secured to each frame member at predetermined locations. A robot mounts its associated tool arm with a docking station. At least one set of reference block and framing clamp is secured to each tool arm and these framing clamps maintain the reference surfaces of the vehicle body components against the reference blocks to hold the vehicle components at a predetermined position relative to each other. After each robot positions each associated tool arm with the docking station, the robot disengages from the tool arm and then welds the body components together by a welding gun carried by the robots.